Calibration and Inter-calibration of SOHO's Vacuum-ultraviolet Instrumentation

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The SOlar and Heliospheric Observatory (SOHO) is equipped with a suite of instruments capable of observing the Sun from the core to the outer corona. Several of these instruments observe radiation in the vacuum-ultraviolet (VUV) wavelength range, where precise and accurate radiometric measurements are of extreme significance for solar and terrestrial investigations, but, at the same time, are very difficult to obtain due to degradation effects of most optical systems under solar ultraviolet irradiation. Radiometric-calibration and cross-calibration matters have consequently been important topics from the initial planning phase of the mission to the operational implementation. An attempt will be made here to summarize the early requirements and goals as well as the achievements of SOHO in this context. Although not all plans could be carried out, the general picture is very encouraging. SOHO allowed us to make a major step forward in solar radiometry, in particular of spatially-resolved structures.